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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,446	10/03/2003	Zhigang Wang	0180187	5320
25700	7590	07/16/2004	EXAMINER	
FARJAMI & FARJAMI LLP 26522 LA ALAMEDA AVENUE, SUITE 360 MISSION VIEJO, CA 92691			MAI, SON LUU	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/678,446

Applicant(s)

WANG ET AL.

Examiner

Son L. Mai

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-03-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 13, 14 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 8, line 4, the word "illustrates" should be --illustrate--.

On page 9, line 6, the reference numeral "234" should be --238--.

Appropriate correction is required.

Claim Objections

3. The claims are objected to because they include reference characters which are not enclosed within parentheses. In claims 3, 10 and 17, the reference numerals "230" should be enclosed within parentheses or removed to avoid confusion. Reference characters corresponding to elements recited in the detailed description of the drawings

and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 8-12 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Campardo et al. (U.S. Patent 5,886,925).

Regarding claim 1, Campardo discloses a sensing circuit (figure 1) for a target memory cell (4), said sensing circuit comprising: said target memory cell having a drain capable of being connected to a first node (16) through a selection circuit (included in decoding circuit 10) during a read operation involving said target memory cell, said target memory cell drawing a target memory cell current when activated during said read operation; a first transistor (12) being connected to said first node; a decouple circuit (3) being connected to said first transistor, said decouple circuit including a second transistor (13), a gate of said second transistor being coupled to a gate of said first transistor, said decouple circuit further having a decouple coefficient (N) greater than 1 (column 2, lines 13-29), a drain of said second transistor being connected at a second node to a reference voltage (ground) through a bias resistor (reference cell 7

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constitutes a bias resistor), said drain of said second transistor generating a sense amp input voltage at said second node such that said sense amp input voltage is decoupled from said first node.

Regarding claim 2, since the width/length (W/L) of the second transistor (13) is N times that of the first transistor (12), with a same length (L) the gate of the second transistor is N times wider the gate of the first transistor.

Regarding claim 3, since the width/length (W/L) of the second transistor (13) is N times that of the first transistor (12), the second transistor draws a mirror current N times larger than the target memory cell current.

Regarding claims 4 and 5, Campardo clearly shows in figure 1, the first and the second transistors being PFETs. The supply and reference voltages are also shown in the figure.

Regarding claims 8-12 and 15-19, the claims recite substantially the same subject matter as in claims 1-5; therefore they are rejected under 35 U.S.C. 102(b) as being anticipated by Campardo et al. (U.S. Patent 5,886,925).

Allowable Subject Matter

6. Claims 6-7, 13-14 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach the further limitation of claim 6 which includes the target memory cell capable of storing four charge levels.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references in PTO-892 are directed to sensing circuit with decouple circuit having a decouple coefficient greater than 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son L. Mai whose telephone number is 571-272-1786. The examiner can normally be reached on 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

07-13-04


Son L. Mai
Primary Examiner
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